



California Department of Health Services Institutions Program

Public Health Fact Sheet

Escherichia coli O157:H7

What is Escherichia coli?

Escherichia coli (*E. coli*) are bacteria that normally live in the intestines of humans and animals. Although most strains are harmless, several are known to produce toxins that can cause diarrhea. One particular *E. coli* strain called O157:H7 can cause severe diarrhea and kidney damage.

Who gets E. coli O157:H7 infection?

Anyone of any age can become infected with *E. coli* O157:H7, but the very young and the elderly are more likely to develop serious complications.

How is it spread?

E. coli O157:H7 can be acquired by eating contaminated food. The bacteria may be found on cattle farms and can live in the intestines of some healthy cattle. Meat can be contaminated during slaughtering and processing. Deer meat (venison) may also be infected with the organism. Eating meat that is rare or inadequately cooked is the most common way of getting the infection. The bacteria is present on the udders of a cow or equipment may get into raw milk. Fresh vegetables, unpasteurized fruit juices and raw milk has also caused outbreaks. With careless food handling and food product eaten raw can be contaminated by raw meat juices. Person-to-person transmission, especially in childcare settings, can occur if infected people do not wash their hands after using the toilet or diapering children. Contaminated drinking water and swimming in contaminated shallow lakes may also cause infection.

What are the symptoms?

Some infected people have mild diarrhea or no symptoms at all. Most identified cases develop severe diarrhea and abdominal cramps. Blood is often seen in the stool. Usually little or no fever is present. Symptoms generally appear three to four days after exposure, but can take as long as nine days to appear. Persons experiencing these symptoms should contact their physician.

How is *E. coli* O157:H7 infection diagnosed?

Infection with *E. coli* O157:H7 can only be diagnosed by a special stool culture that is not performed in all laboratories. Public health authorities advise doctors and laboratories to consider performing a special stool culture test for *E. coli* O157:H7, particularly in people with bloody or severe diarrhea.

What is the treatment?

Symptoms generally go away without antibiotics or other specific treatment in five to 10 days. Studies have not yet been conducted to determine if antibiotics are useful or harmful in the treatment of *E. coli* O157:H7 infection. It is recommended that antibiotics and diarrhea medicines not be given.

What serious complications can result from *E. coli* O157:H7 infection?

In some people, particularly children under five years of age, the infection can cause a complication called hemolytic uremic syndrome (HUS). This is a serious disease in which red blood cells are destroyed and the kidneys fail. Transfusions of blood or blood clotting factors, as well as kidney dialysis, may be necessary. A prolonged hospital stay is often required. Fortunately, most people with HUS recover completely, but it can be fatal.

What can I do to prevent infection?

Do not eat undercooked hamburger or other ground beef products. Cook roasts to at least 130° F and other ground beef to 157° F. Venison should be cooked to 165° F. Make sure cooked ground beef is brown throughout (not pink) and the juices run clear. Drink only pasteurized milk, milk products and fruit juices. Carefully wash all produce, kitchen utensils and countertops. Wash hands carefully with soap after using the toilet or changing a child's diaper to reduce the risk of spreading disease. Wash hands with hot, soapy water, rubbing hands together for 20 seconds. Drink municipal water that has been treated with chlorine or other effective disinfectants. Protect all water sources from contamination and use backflow prevention devices where appropriate.

Outbreaks

The largest additional outbreaks have occurred in the United States from non-beef sources including lettuce and salad bars where foods were contaminated by improperly cleaned utensils, working surfaces and infected food handlers. In addition, outbreaks have occurred in people who have consumed garden vegetables fertilized with animal manure, unpasteurized apple cider, and homemade venison jerky. Recently there have been cases due to contaminated swimming and well water.

Cases

Most *E. coli* O157:H7 infections are single cases and not associated with outbreaks. However, a large outbreak of *E. coli* from the Washington County Fair in New York resulted in a total of 971 suspected and confirmed cases. Approximately, 65 people were hospitalized and two deaths were reported as a result of the incident.

How can I get more information?

Contact the Department of Health Services, Institutions Program at (916) 445-0498 or visit the website at: <http://www.dhs.cahwnet.gov> or the U.S. Department of Agriculture's Food Safety and Inspection Service website at: <http://www.fsis.usda.gov>